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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/603,777	06/26/2003	Jea-Woan Lee	1567.1047	5869

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EXAMINER

WEINER, LAURA S

ART UNIT	PAPER NUMBER
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1745

DATE MAILED: 07/25/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/603,777

Applicant(s)

LEE ET AL.

Examiner

Laura S. Weiner

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 June 2006.
2a) ☒ This action is FINAL. 2b) ☐ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6 and 8-65 is/are pending in the application.
4a) Of the above claim(s) 9, 11-13, 22, 32, 34-36, 42-44, 46 and 48-62 is/are withdrawn from consideration.
5) ☒ Claim(s) 64 and 65 is/are allowed.
6) ☒ Claim(s) 1-6, 8, 10, 14-21, 23-31, 33, 37-41, 45, 47 and 63 is/are rejected.
7) ☒ Claim(s) 4, 5, 10, 14-18, 27, 28, 33 and 37-40 is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed 6-13-06 have been fully considered but they are not persuasive.

Applicant argues that Tanaka does not teach a substrate having a mean roughness of 30-4000 A and the substrate is controlled to have a low mean roughness. This is not persuasive because Tanaka teaches that the surface of the support can be roughened by anodization, etc. and the surface-roughness of the support is on the order of 0.1-10um [1000-100,000 A]. Therefore teaching having a mean roughness of 30-4000 A. The substrate being controlled to have a low mean roughness is a process limitation and thus the determination of patentability is based upon the product itself not upon the method of its production. Also this limitation has no support in the specification.

Election/Restrictions

2. Applicant's election with traverse of Group I, claims 1-19, 20-51 in the reply filed on 1-20-06 is acknowledged. The traversal is on the ground(s) that Group II claims are similar to Group I claims. This is not found persuasive because Group I claims require a substrate having a mean roughness of 30-4000 A and Group II, claim 52 does not require a substrate having a mean roughness of the substrate.

The requirement is still deemed proper and is therefore made FINAL.

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3. Since the elected species was not found, a negative electrode comprising a substrate comprising a polymer film deposited with metal having a mean roughness of 30-4000 Å and a lithium layer coated on the substrate has been found allowable. The next species searched was a substrate comprising a metal having a mean roughness of 30-4000 Å and a lithium layer coated on the substrate. Therefore claims 1-6, 8, 10, 14-21, 23-31, 33, 37-41, 45, 47, 63-65 have been examined.

4. Claims 9, 11-13, 22, 32, 34-36, 42-44, 46, 48-62 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected invention and species, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in the reply filed on 1-20-06.

Claim Rejections - 35 USC § 112

5. Claims 1-6, 8, 10, 14-21, 23-31, 33, 37-41, 45, 47, 63 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Claim 1 is rejected because there is no support in the specification for the phrase "the substrate is controlled to have a low mean roughness".

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Claim 63 is rejected because there is no support in the specification for the phrase "a substrate having a mean roughness of 30 to less than 1000 Å".

6. Claims 1-6, 8, 10, 14-21, 23-31, 33, 37-41, 45, 47 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 is rejected because it is unclear what is meant by "the substrate is controlled to have a low mean roughness".

Claim 25 is rejected because claim 1 from which the claim depends from already claims "a negative electrode comprising a substrate having a mean roughness of 30-4000 Å and a lithium layer coated on the substrate".

Claim 47 is rejected because there is no antecedent basis for "wherein the polyester is one of ...".

Claim Rejections - 35 USC § 102

7. Claims 1-3, 6, 8, 19-21, 23-26, 29-31, 41 are rejected under 35 U.S.C. 102(b) as being anticipated by Tanaka (5,462,820).

Tanaka teaches in column 2, lines 29-37, a nonaqueous battery comprising a negative electrode, a positive electrode, a separator, an electrolyte, etc. Tanaka teaches in column 6, that the electrode sheet is pressed and the support is treated to make the surface thereof uneven to improve the adhesion of the electrode material. The surface of the support can be roughened by anodization, etc. and the surface-

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roughness of the support is on the order of 0.1-10um [***a mean roughness of 1000-100,000 Å***]. The negative electrode comprises lithium [***lithium layer coated on the substrate***]. Tanaka teaches in column 16, Example 1, a battery comprising a positive electrode current collector comprises aluminum foil and the active material is LiCoO₂; that the negative electrode current collector comprises copper foil [***substrate is a metal foil***] and a microporous separator of polypropylene. Tanaka teaches in column 18, claim 2, that the negative electrode active material comprises elemental lithium or alloys, Li-Al alloys, etc.

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 1-3, 6, 8, 19-21, 23-26, 29-31, 41 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Tanaka (5,462,820).

Tanaka teaches in column 2, lines 29-37, a nonaqueous battery comprising a negative electrode, a positive electrode, a separator, an electrolyte, etc. Tanaka teaches in column 6, that the electrode sheet is pressed and the support is treated to make the surface thereof uneven to improve the adhesion of the electrode material. The surface of the support can be roughened by anodization, etc. and the surface-

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roughness of the support is on the order of 0.1-10um [**a mean roughness of 1000-100,000 Å**]. The negative electrode comprises lithium [**lithium layer coated on the substrate**]. Tanaka teaches in column 16, Example 1, a battery comprising a positive electrode current collector comprises aluminum foil and the active material is LiCoO₂; that the negative electrode current collector comprises copper foil [**substrate is a metal foil**] and a microporous separator of polypropylene. Tanaka teaches in column 18, claim 2, that the negative electrode active material comprises elemental lithium or alloys, Li-Al alloys, etc.

In the event any differences can be shown for the product of the product by process claims as opposed to the product taught by Tanaka, such differences would have been obvious to one of ordinary skill in the art as a routine modification of the product in the absence of a showing of unexpected results. *In re Thrope* 227 USPQ 964; (Fed. Cir. 1985).

With respect to the product by process claims, the determination of patentability is based upon the product itself not upon the method of its production. *In re Thrope* 227 USPQ 964; *In re Brown* 173 USPQ 685; *In re Bridgeford* 149 USPQ 55; *In re Wertheim* 191 USPQ 90. Any difference imparted by the product by process limitations would have been obvious to one having ordinary skill in the art at the time the invention was made because where the Examiner has found a substantially similar product as in the applied prior art, the burden of proof is shifted to the Applicants to establish that their product is patentably distinct. *In re Brown* 173 USPQ 685 and *In re Fessmann* 180 USPQ 324.

Allowable Subject Matter

10. Claims 64-65 are allowed.
11. Claims 4-5, 10, 14-18, 27-28, 33, 37-40, 45 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

12. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

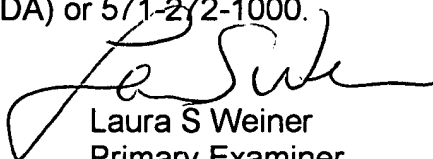
A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Laura S. Weiner whose telephone number is 571-272-1294. The examiner can normally be reached on M-F (6:30-4:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Ryan can be reached on 571-272-1292. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


Laura S Weiner
Primary Examiner
Art Unit 1745

July 20, 2006